

Am three-dimensional interconnected network. The three-dimensional interconnected network will usually be comprised of pores having diameters greater than about 20Å. The macrostructures can be made by forming an admixture containing a porous organic ion exchanger (e.g., a polymer-based ion exchange resin) and a synthesis mixture (e.g., for zeolite formation) capable of forming the porous inorganic material and the at least one metal; converting the synthesis mixture to the porous inorganic material; and removing the porous organic ion exchanger from the inorganic material. The metal-containing macrostructures find application in hydrocarbon conversion (e.g., hydrogenation, dehydrogenation, dehydrocyclization, isomerization, hydrocracking, dewaxing, reforming, conversion of alkyl aromatics, etc.) and in the reduction of emissions of hydrocarbons, carbon monoxide, and/or oxides of nitrogen from an internal combustion engine.

Please replace the paragraph at page 20, lines 1-21 with the following amended paragraph:

A2 The organic ion exchangers suitable for preparing the macrostructures are organic porous materials with a surface charge and ion exchange capacity for anions or cations. Preferably, the organic ion exchangers are polymer-based which are sometimes referred to as ion exchange resins. Polymer-based ion exchangers are commercially available or can be readily prepared from resins that are commercially available. Examples of such resins include resins sold by Rohm and Haas Company under the registered trademark AMBERLYST (ion exchange resin) and resins sold by the Dow Chemical Company under the registered trademark DOWEX (ion exchange resin). These exchangers cover a broad spectrum of different cation and anion exchangers with varying ion exchange capacity, porosity, pore size and particle size. Ion exchangers with an apparent anion exchange capacity, typically greater than about 1 mEq/g of dry anion exchanger, are of special interest to the present invention. Macroreticular organic ion exchangers are particularly preferred in the practice of the present invention. By "macroreticular" as the term is commonly used in the resin art, it is generally meant that the pores, voids, or reticules are substantially within the range of about 200 to about 2,000 Å. Macroreticular resins are also referred to as macroporous resins.

Please replace the paragraph at page 41, lines 6-14 with the following amended paragraph:

A3 A 1M HCl solution containing 0.01M palladium (II) chloride (PdCl₂) was prepared in a beaker by dissolving the palladium

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chloride in a 1M HCl solution. Next, a macroporous strongly basic anion exchanger sold under the tradename DOWEX MSA-1 [chloride form] was added to the contents of the beaker. The weight ratio of resin to Pd was 1:10 (10 grams of resin and 100 grams of Pd solution). Next, the beaker was placed in a shaker for one hour. The particles were then separated, rinsed several times with distilled water, filtered, and dried at 105°C.

Please replace the paragraph at page 45, lines 10-16 with the following amended paragraph:

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DOWEX MSA-1 [chloride form] ion exchanger was exchanged with a 0.01M palladium (II) chloride (PdCl₂) solution that was prepared by dissolving the palladium chloride in a 1M HCl solution. The weight ratio of resin to Pd was 1:10 (10 grams of resin and 100 grams of Pd solution). Next, the beaker was placed in a shaker for one hour. The particles were then separated, rinsed several times with distilled water, filtered, and dried at 105°C.

Please replace the paragraph at page 46, lines 11-15 with the following amended paragraph:

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2 g of synthesis solution were mixed with 4 g of 0.1 M solutions of Co(NO₃)₂·6H₂O. Next, 2 grams of DOWEX MSA-1 [chloride form] ion exchanger was added to the mixture and the mixture was shaken for one hour. The particles were washed with distilled water and dried at 105°C for 2 hours.

A marked-up version of the amended paragraphs of the specification is attached hereto as ATTACHMENT A.

In The Claims

Please amend claims 15, 16, 24, 34, and 36 as follows:

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15. (Amended) The catalyst recited in Claim 4, wherein said at least one macrostructure contains less than 10% by weight of amorphous materials.
16. (Amended) A process of preparing a catalyst comprising; at least one porous macrostructure comprised of: (a) a three-dimensional network of self bound particles of porous inorganic material; and, (b) at least one metal, said particles occupying less than